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*G2*  
*encls*  
*GW*  
*CK*  
*WW*

printing different areas of a diagnostic pattern at different passes of one or more ink-jet printheads with a controlled amount of media advances between the passes, to accumulate media advance error between the printing of the different areas; and

examining the diagnostic pattern to determine whether the accumulated media advance error is sufficiently objectionable to take corrective action, wherein said step of examining the diagnostic pattern is conducted visually by a user.

*G3*  
*SAC*  
*GW*

6. (Amended) A diagnostic method for visual detection of poor media advance calibration in an ink-jet printing system, comprising:

checking for printhead health and taking any corrective needed action;  
printing different areas of a diagnostic pattern at different passes of one or more ink-jet printheads with a controlled amount of media advances between the passes, to accumulate media advance error between the printing of the different areas; and

examining the diagnostic pattern to determine whether the accumulated media advance error is sufficiently objectionable to take corrective action.

*SAC*  
*GW*  
*G4*  
*Concl*

9. (Amended) A diagnostic method for visual detection of poor media advance calibration in an ink-jet printing system, comprising:

printing different areas of a diagnostic pattern at different passes of one or more ink-jet printheads with a controlled amount of media advances between the passes, to accumulate media advance error between the printing of the different areas, said printing of a diagnostic pattern comprising applying a diagnostic multi-pass print mode mask, wherein a plurality of carriage passes are employed to print the area subtended by a printhead nozzle array, the diagnostic print mode mask comprising a rectilinear grid of pixels, with each pixel location having a number associated therewith, the number representing the pass in which the pixel will be printed, and wherein said different areas include a first set of pixels on a row of said grid, and a second set of pixels on said row, and wherein said first set of pixels is printed on a different pass than said second set of pixels is printed, said diagnostic print mode mask defines that the first  $w/2$  pixels in the row are printed in the same pass ( $a_i$ ), and the last  $w/2$  pixels in the row are printed in another pass ( $b_i$ ), wherein said diagnostic print mode mask

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SAC/mt*

includes a row wherein said first w/2 pixels are printed in a first pass, and said last w/2 pixels are printed in a last pass of said plurality of passes; and

examining the diagnostic pattern to determine whether the accumulated media advance error is sufficiently objectionable to take corrective action.

*SAC  
mt*

13. (Amended) A diagnostic method for visual detection of poor media advance calibration in an ink-jet printing system, comprising:

providing an ink-jet printhead mounted on a carriage, the carriage mounted for movement along a scan axis;

providing a media advance system for advancing a print medium along a media path which is transverse to the scan axis;

entering a diagnostic multi-pass print mode;

printing different areas of a diagnostic plot at different passes using said ink-jet printhead with a controlled amount of media advances between the passes to accumulate media advance error between the printing of the different areas; and

examining the diagnostic plot to determine whether the accumulated media advance error is sufficiently objectionable to take corrective action, wherein said step of examining the diagnostic pattern is conducted visually by a user.

*SAC, mt*

18. (Amended) A diagnostic method for visual detection of poor media advance calibration in an ink-jet printing system, comprising:

providing an ink-jet printhead mounted on a carriage, the carriage mounted for movement along a scan axis;

providing a media advance system for advancing a print medium along a media path which is transverse to the scan axis;

entering a diagnostic multi-pass print mode;

printing different areas of a diagnostic plot at different passes using said ink-jet printhead with a controlled amount of media advances between the passes to accumulate media advance error between the printing of the different areas, said printing different areas of a diagnostic plot comprising applying a diagnostic multi-pass print mode mask, wherein a plurality of carriage passes are employed to print the area subtended by a printhead nozzle array, the diagnostic print mode mask comprising a rectilinear grid of pixels, with each pixel location

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having a number associated therewith, the number representing the pass in which the pixel will be printed, and wherein said different areas include a first set of pixels on a row of said grid, and a second set of pixels on said row, and wherein said first set of pixels is printed on a different pass than said second set of pixels is printed, said diagnostic print mode mask defining that the first w/2 pixels in the row are printed in the same pass (a<sub>i</sub>), and the last w/2 pixels in the row are printed in another pass (b<sub>i</sub>), wherein said diagnostic print mode mask includes a row wherein said first w/2 pixels are printed in a first pass, and said last w/2 pixels are printed in a last pass of said plurality of passes; and

examining the diagnostic plot to determine whether the accumulated media advance error is sufficiently objectionable to take corrective action.

20. (Amended) A multi-pass diagnostic print mode mask for visual detection of poor media advance calibration in an ink-jet printing system including a printhead having a nozzle array, wherein a plurality of carriage passes are employed to print the area subtended by a printhead nozzle array, the diagnostic print mode mask comprising a rectilinear grid of pixels, with each pixel location having a number associated therewith, the number representing the pass in which the pixel will be printed, and wherein said different areas include a first set of pixels on a row of said grid, and a second set of pixels on said row, and wherein said first set of pixels is printed on a different pass than said second set of pixels is printed, wherein said diagnostic print mode mask defining that the first w/2 pixels in the row are printed in the same pass (a<sub>i</sub>), and the last w/2 pixels in the row are printed in another pass (b<sub>i</sub>).

21. (Amended) A multi-pass diagnostic print mode mask for visual detection of poor media advance calibration in an ink-jet printing system including a printhead having a nozzle array, wherein a plurality of carriage passes are employed to print the area subtended by a printhead nozzle array, the diagnostic print mode mask comprising a rectilinear grid of pixels, with each pixel location having a number associated therewith, the number representing the pass in which the pixel will be printed, and wherein said different areas include a first set of pixels on a row of said grid, and a second set of pixels on said row, and wherein said first set of pixels is printed on a different pass than said second set of pixels is printed, said diagnostic print mode mask defining